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(71) Applicant
Muriel Enid Jagger
7 Clover Hill Terrace, Savile Park, Halifax, HX1 2XF,
United Kingdom
 (72) Inventor
Muriel Enid Jagger
 (74) Agent and/or Address for Service
Appleyard Lees & Co
15 Clare Road, Halifax, West Yorkshire, HX1 2HY,
United Kingdom

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(54) **Animal restraint for use in a vehicle**

(57) A restraining device is provided for a small animal, such as a dog. The device comprises a harness 3, 4, the harness being adjustable so that it is a relatively tight fit upon the animal, a restraining member 2, means for connecting the restraining member 2 to a rigid part of a vehicle and a fastening means 6, the fastening means being connectable between the harness and the restraining member and adapted so that the animal may move to a limited degree but is restrained from extended and/or sudden movement.

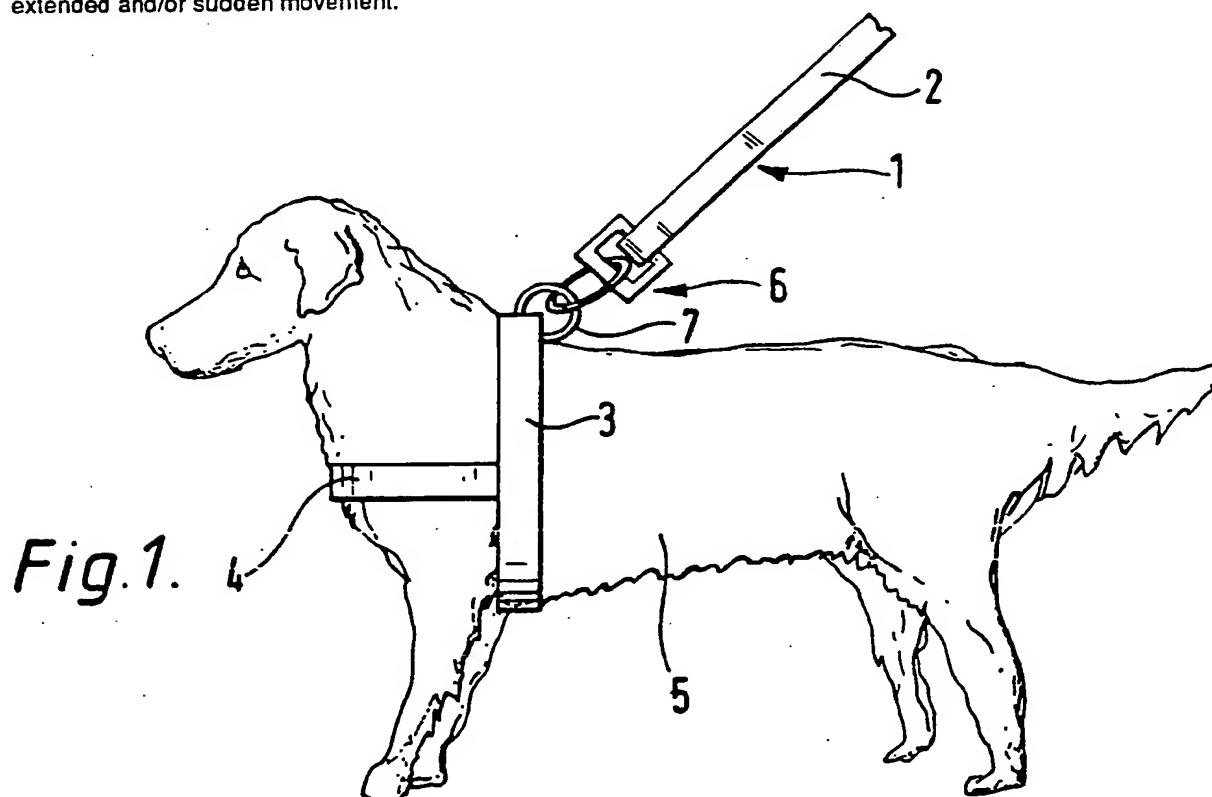


Fig. 1.

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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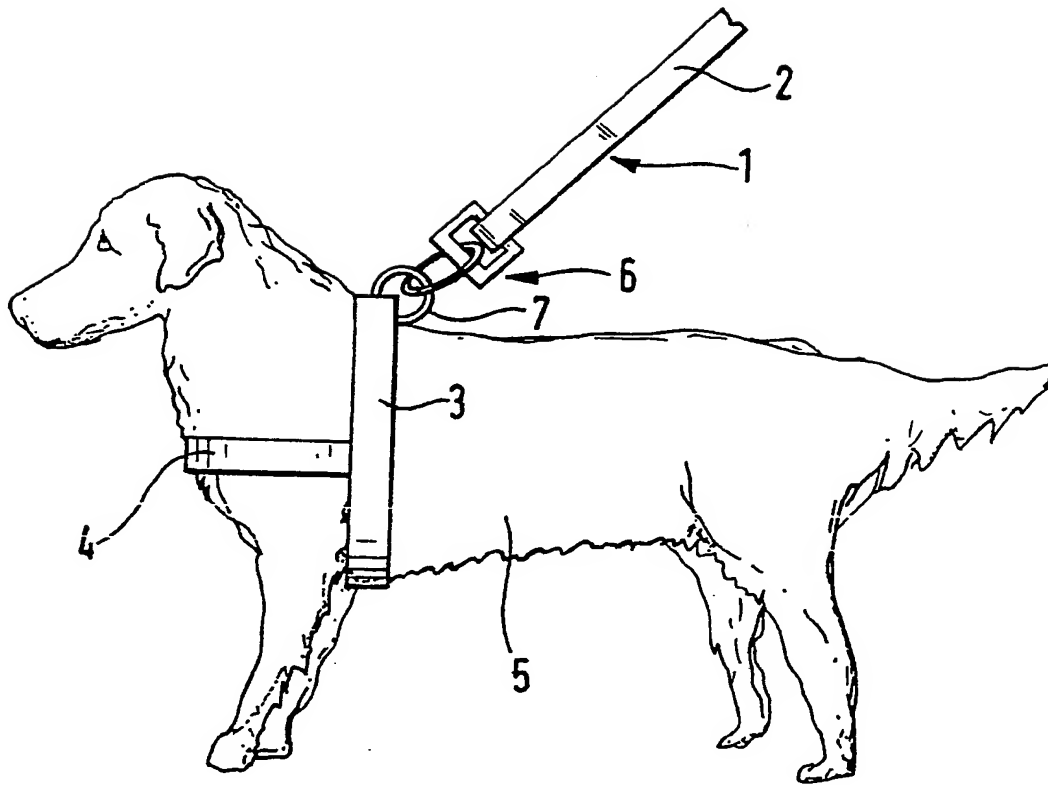


Fig.1.

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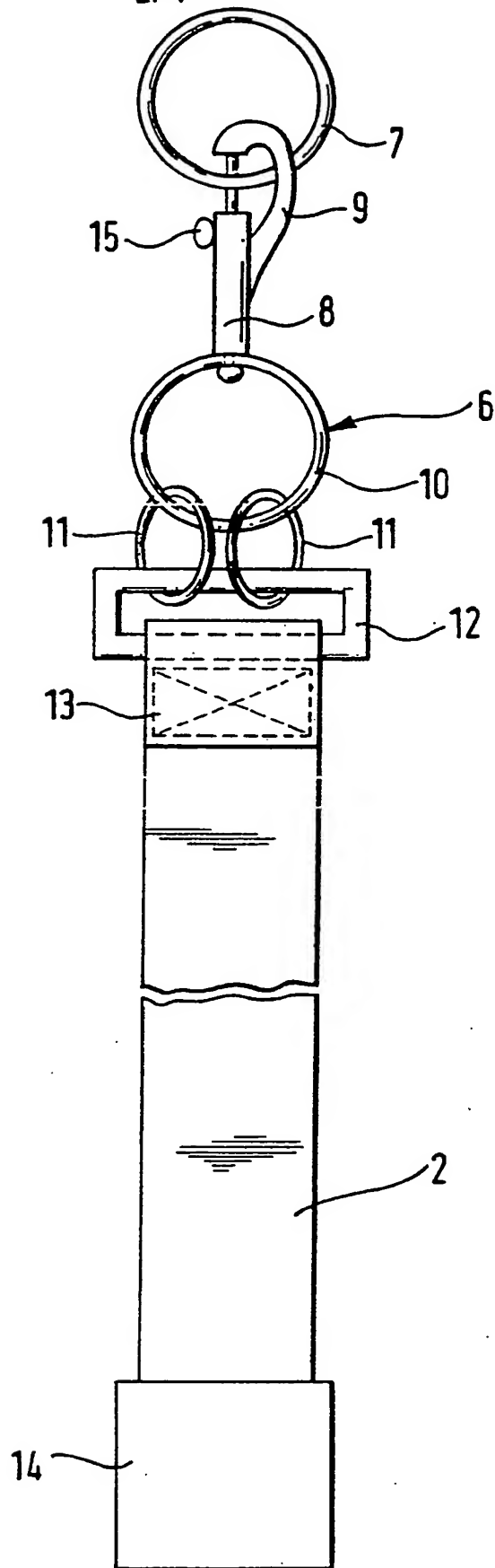
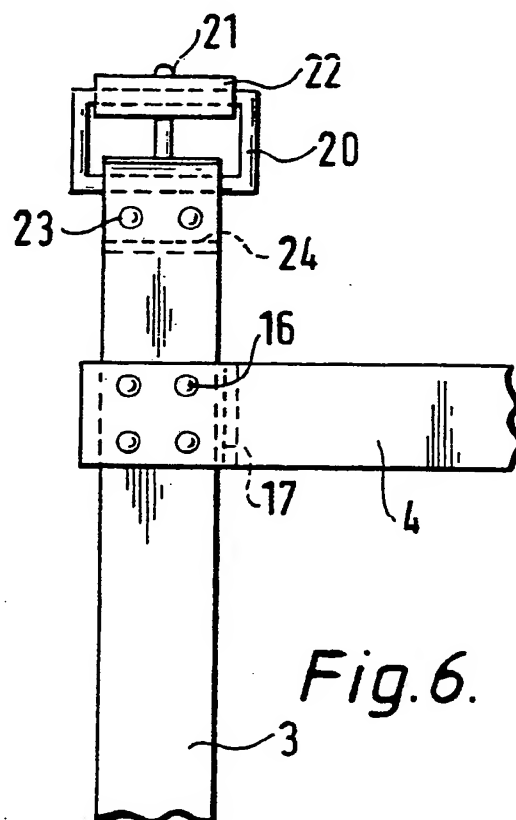
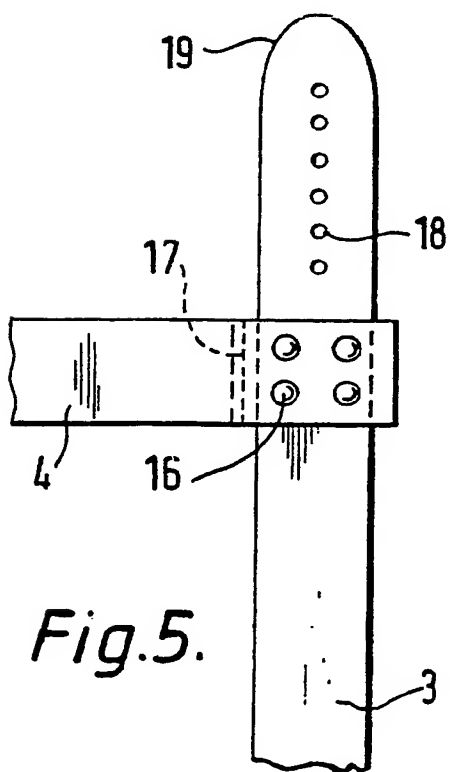
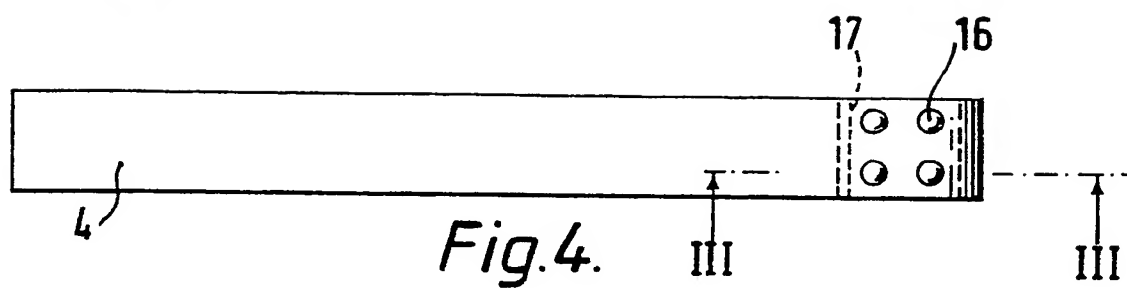
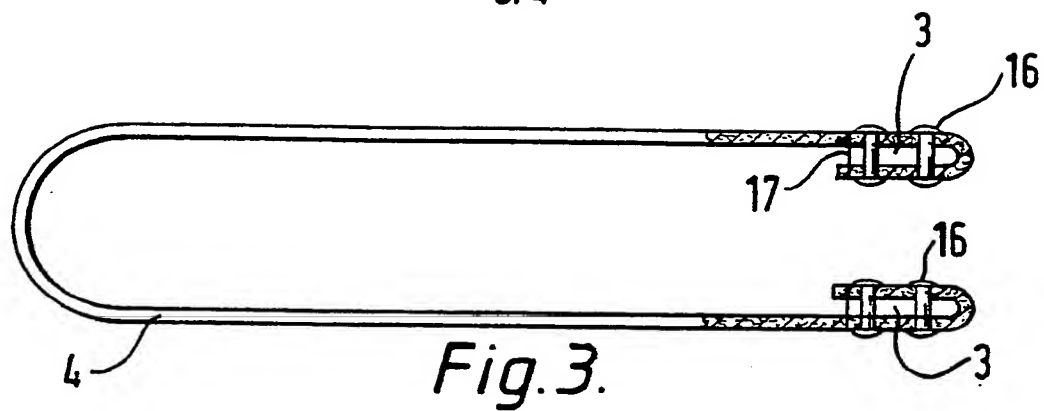


Fig. 2.

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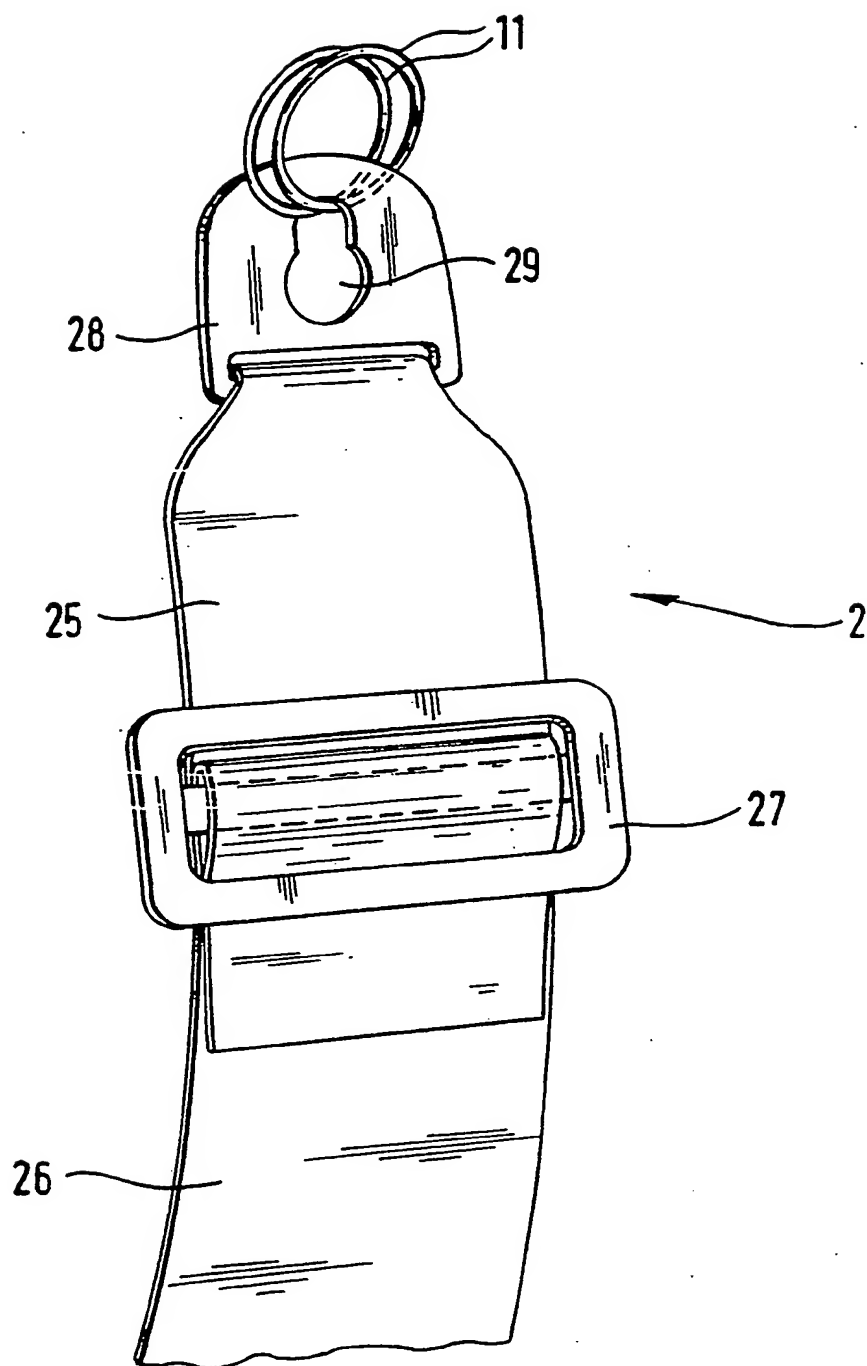


Fig.7.

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RESTRAINING DEVICES

This invention relates to restraining devices for animals, for example dogs.

Some forms of restraining devices for animals are already known, but prior art examples have certain problems which the invention seeks to reduce or overcome. PCT Patent Publication No. WO 88/00540 relates to a protective or holding device for restraining small animals, especially dogs, in motor vehicles. Whilst the article described in the specification may work, it cannot be used quickly and easily. The device is specially adapted so that an animal leash may be connected, via a coupling device, to a safety belt arrangement on the vehicle. The coupling device itself, which is the characterising part of the invention, comprises a slot arrangement whereby the safety belt may be pushed through in a manner so that the animal upon the leash is restrained. In practice, many animals, especially dogs, will become quite boisterous when in vehicles so that it may prove exceedingly difficult to push the safety belt through the slot arrangement on the device in question. A further disadvantage with the article described in this PCT specification is that the owner of the vehicle is effectively compelled to place the animal upon a seat and the animal leash can be connected only to an existing safety belt.

According to the present invention, a restraining device for a small animal comprises a harness, the harness being adjustable so that it is a relatively tight fit upon the animal; a restraining member having means for connecting the restraining member to a rigid part of a vehicle and a fastening means, the fastening means

being connectable between the harness and the restraining member and adapted so that the animal may move to a limited degree but is restrained from extended and/or sudden movement.

The harness may comprise a simple collar but it preferably incorporates a first strap portion arranged to encircle a part of the body of the animal and a second strap portion arranged to lie across the chest of the animal.

The harness is preferably made from leather, for example soft, untreated leather. The harness preferably has no sharp or rough edges which could damage the coat of the animal.

In addition, the harness is preferably substantially free of dyes or other substances which may poison or harm the animal should the animal chew or consume parts of the same.

The first strap portion may be attached to the second strap portion by means of stitching.

Preferably the first strap portion is attached to the second strap portion by means of rivets. The rivets may be stainless steel or otherwise corrosion resistant. The rivets are preferably smooth on all their exposed surfaces so that the animal coat and/or any vehicle upholstery cannot be damaged.

The harness is preferably adjustable by means of a buckle and pin arrangement. The buckle and pin arrangement is preferably located on an upper part of the harness for ease of access by the animal owner. In

addition, the buckle and pin arrangement should be located where the animal would not lie or sit upon it since this may cause minor discomfort.

The restraining strap may be formed from substantially the same material as that used to manufacture vehicle safety belts, for example, woven synthetic webbing material. However, in certain circumstances or with certain animals which are particularly prone to chewing harnesses and other products etc., it may be desirable to use the same leather for the restraining strap as that used for the harness proper. The strap is preferably attached to a rigid part of the vehicle by a secure fixing (such as, for example, a nut and bolt arrangement).

Alternatively, the strap may comprise a vehicle safety belt (or a portion thereof). In such a case, the animal would be able to move to a limited degree, but would be protected by the inertia reel brake of the existing safety belt arrangement.

The fastening means is preferably formed from stainless steel or any other corrosion resistant material.

The fastening means may comprise a harness fastening ring which is attached or attachable to the harness. There may be a buckle attached to the restraining member and, at least, a clasp arrangement whereby the ring is readily connectable to the buckle so that the harness (and thereby the animal) is restrained by the strap but so that the animal may move or rotate to a limited degree without the strap or the fastening means becoming substantially twisted or tangled.

The fastening means may further comprise at least one split ring attached to the buckle, and at least one rotatable "key holder" or other like device, the key holder being attachable or connected to the ring on the harness and attachable or connected to the split ring or rings.

Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which :-

Figure 1 is a view of a dog wearing a restraining device according to a first embodiment of the present invention;

Figure 2 is a view of the free end of the restraining strap of Figure 1;

Figure 3 is a cross-sectional view along the line III III of the chest portion of the restraining harness of Figure 1;

Figure 4 is a plan view of the product of Figure 3;

Figure 5 is a plan view of part of the body harness portion;

Figure 6 is a plan view of the opposing part of the body harness portion to that of Figure 5; and

Figure 7 shows part of an alternative embodiment.

In Figure 1, a restraining device 1 is shown on a dog 5. The restraining device 1 comprises generally a

first strap portion 3 encircling the body of the dog, a second strap portion 4 connected to the first portion 3 and extending around the front chest of the dog, a restraining member in the form of a strap 2, and a fastening means 6 connecting the restraining strap 2 to the harness portions (3 and 4).

In Figure 2, it will be seen that the restraining strap 2 has a rigid anchorage point 14 for connection to a vehicle. Although the anchor point 14 is illustrated only diagrammatically in Figure 2, it will be clear that it may comprise almost any arrangement which is sufficiently strong to hold an animal such as a dog. In certain examples, the anchor point 14 will be located relatively near to a door of the vehicle for ease of access both by the dog itself and by the owner of the dog. Alternatively, the anchor point 14 may comprise a nut and bolt arrangement fitted to a rigid portion of the vehicle itself. In certain cases the anchor point may comprise an existing vehicle safety belt system.

The free end of the restraining strap 2 passes through the slot of a buckle 12 and is folded back upon itself and stitched in position by means of stitches 13. In certain cases, the stitching 13 may be replaced by or used in addition to rivets.

In this embodiment, a pair of stainless steel split rings 11 are attached to the buckle 12 and to a rotatable key holder indicated generally at 8.

The rotatable key holder 8 comprises, generally, a releasable connector portion 9, this being releasable by means of a release button 15, and a rotatable ring 10. The ring 10 is rotatable coaxially with respect to the

remainder of the key holder 8 because it is loosely fitted or riveted thereto. In this manner, the connector portion 9 may rotate freely with respect to the rotatable ring 10.

A harness fastening ring 7 is held in position by the closed connector portion 9 of the key holder 8.

In order that the fastening means 6 can be connected to the harness (3, 4) the harness fastening ring 7 enclose a portion of, preferably, the first strap portion 3 of the harness. This may be achieved either by a part of the fastening ring 7 passing through a hole formed through the strap 3 as shown in Figure 1, or, preferably, the ring 7 enclosing a whole portion of the strap 3. The ring 7 can rotate freely without twisting the strap 3 so the strap remains securely and comfortably against the body of the dog.

In use, the fastening means 6 may be readily detached from the harness by simply pressing the release button 15 of the key holder 8 which will release the harness fastening ring 7. The fastening ring 7 will be maintained upon the strap 3 because the buckle and pin arrangement thereof (described hereinafter) will be closed.

Turning now to Figure 3 of the accompanying drawings, it will be seen that the second strap portion 4 comprises a non-dyed leather strap which is stitched (17) and riveted (16) at each end, to secure it to the strap portion 3.

Referring now to Figure 5, it will be seen that the first strap portion 3 has a smoothly rounded end 19

and a plurality of clearance holes 18 formed in a line from adjacent thereto. The opposite end of the first strap portion 3 includes a buckle and pin arrangement. The buckle 20 is attached to the end of the first harness strap 3 by means of, in this case, both rivets 23 and stitching 24 passing through two layers of the strap material, the end of the strap forming a loop in which the buckle 20 is held. A pin 21 is attached to the fixed end of the buckle the pin being rotatable in the same direction as the buckle proper. The pin 21 is, in use, located through one of the clearance holes 18 formed through the other end of the strap 3. By this means, the strap 3 is held in position upon the animal. In this example, a roller 22 encircling the free end of the buckle 20 is provided. This is simply to make it slightly easier for the strap 3 to pass through the centre of the buckle 20.

In use, the harness is attached to the animal by placing the animal's front two legs through the closed loop formed by the straps 3 and 4, and the free ends of the strap 3 are wrapped around the main chest (body) part of the animal and tightened using the buckle and pin arrangement. Whilst the strap 3 should not be so tight as to restrict circulation or cause discomfort in the animal, it should be sufficiently tight so that the animal cannot wriggle out of or otherwise remove the harness without first untying the buckle and pin. Since the harness contains no sharp or rough edges which could damage the animal's coat, the harness may be left on the animal semi-permanently. The animal may be restrained in a vehicle, by attaching the fastening ring of the harness to the restraining strap attached to a solid part of the vehicle by means of the rotatable key holder. In this manner, the animal will be able to move within the

vehicle to a limited degree, but, depending upon the length of the restraining strap and the size of the animal, it will not be able to cause a nuisance, such as, jumping upon the driver of the vehicle. Nevertheless, the animal will still have sufficient freedom for it to stand and sit down and to move around within a limited area. Importantly, the animal will be able to move around in circles, without the strap becoming tangled or twisted so that it proves difficult to untangle or untwist. The reason for this, is that the restraining belt will twist only to a limited degree, because if there is any significant twisting, the loose fitting rotatable ring 10 of the key holder 8 will rotate with respect to the remainder of the key holder. Consequently, should the animal constantly move in circles, the key holder will constantly turn with respect to the restraining strap so that the strap will not become tangled or twisted significantly.

Whilst the above embodiment has been described with respect to any sort of animal which may be carried in a car or other vehicle, it is envisaged that the most popular use of the invention will be in respect of dogs. In this connection, it is envisaged that, perhaps, three versions of the above embodiment will be produced namely, a version for relatively small dogs (such as Yorkshire Terriers), a version for medium sized dogs (such as Cocker Spaniels), and a version for larger dogs (such as Alsations). In this connection, in the larger version the straps 3 and 4 of the harness may be approximately 50 millimetres wide. The second strap portion 4 may be approximately 500 to 600 millimetres long. Should the restraining strap 2 be made from leather in such a case, then the thickness and width may be approximately the same as the straps 3 and 4.

In the modified embodiment shown in Figure 7, the restraining member 2 comprises a strap having two parts, 25 and 26, connected together by a buckle 27, thus enabling the restraining member to be adjusted in length. The strap portions are of woven synthetic webbing of the type used to manufacture conventional seat belts. The strap portion 25 is secured by stitching to a metal bracket 28 which has a keyhole shaped aperture 29 therein. The two split rings 11 pass through the aperture 29.

The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

Each feature disclosed in this specification (including any accompanying claims, abstract and drawings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

The invention is not restricted to the details of the foregoing embodiment(s). The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

CLAIMS

1. A restraining device for a small animal, comprising a harness, the harness being adjustable so that it is a relatively tight fit upon the animal; a restraining member having means for connecting the restraining member to a rigid part of a vehicle and a fastening means, the fastening means being connectable between the harness and the restraining member and adapted so that the animal may move to a limited degree but is restrained from extended and/or sudden movement.
2. A restraining device as claimed in Claim 1, comprising a collar.
3. A restraining device as claimed in Claim 1, incorporating a first strap portion arranged to encircle a part of the body of the animal and a second strap portion arranged to lie across the chest of the animal.
4. A restraining device as claimed in any one of the preceding Claims, made of leather.
5. A restraining device as claimed in Claim 4, in which the harness is made from soft, untreated leather.
6. A restraining device as claimed in any one of the preceding Claims, in which the harness has no strap or rough edges which could damage the coat of the animal.
7. A restraining device as claimed in any one of the preceding Claims, in which the harness is substantially free of dyes or other substances which may poison or harm the animal should the animal chew or consume parts of the same.

8. A restraining device as claimed in any one of the preceding Claims, in which the harness comprises a first strap portion and a second strap portion attached to the first strap portion by stitching.

9. A restraining device as claimed in any one of the preceding Claims in which the harness comprises a first strap portion and a second strap portion attached to the first strap portion by rivets.

10. A restraining device as claimed in Claim 9, in which the rivets are of stainless steel or are otherwise corrosion resistant.

11. A restraining device as claimed in Claim 9 or Claim 10, in which the rivets are smooth on all their exposed surfaces.

12. A restraining device as claimed in any one of the preceding Claims, in which the harness is adjustable by means of a buckle and pin arrangement.

13. A restraining device as claimed in Claim 12, in which the buckle and pin arrangement is located on an upper part of the harness.

14. A restraining device as claimed in any one of the preceding Claims in which the restraining member comprises a strap formed from substantially the same material as that used to manufacture vehicle safety belts.

15. A restraining device as claimed in any one of the preceding Claims, in which the means for connecting the restraining member to a rigid part of the vehicle

includes a nut and bolt arrangement.

16. A restraining device as claimed in any one of the preceding Claims, in which the fastening means is formed from stainless steel or other corrosion resistant material.

17. A restraining device as claimed in any one of the preceding Claims, in which the fastening means comprises a harness fastening ring which is attached or attachable to the harness.

18. A restraining device as claimed in Claim 17, in which the harness fastening ring is freely rotatable around the harness without twisting the harness.

19. A restraining device as claimed in Claim 17 or Claim 18 including a releasable clasp arrangement whereby the ring is readily connectable to the restraining member.

20. A restraining device as claimed in Claim 19, in which the releasable clasp arrangement may be connected to the restraining member by at least two split rings and a metal bracket.

21. A restraining device as claimed in Claim 20, in which the split rings pass through a keyhole shaped aperture in the bracket.

22. A restraining device as claimed in any one of the preceding Claims, in which the restraining member is adjustable in length.

23. A restraining device as claimed in Claim 22, in which the restraining member comprises two strap portions interconnected by a buckle.

24. A restraining device as claimed in any one of the preceding Claims, adapted for use on a dog.

25. A restraining device constructed and arranged substantially as herein described, with reference to Figures 1 to 6, or Figures 1 to 6 as modified by Figure 7 of the accompanying drawings.

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